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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,801

Applicant(s)

MIGUEL SANZ ET AL.

Examiner

DENNIS HOGUE

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41, 44, 45, 48-58, 63-66, 68 and 85-105 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41, 44, 45, 48-58, 63-66, 68, 85 and 88-96 is/are rejected.
- 7) ☒ Claim(s) 86, 87 and 97-105 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This is the second Office Action based on the 10/526,801 application filed 3/7/2005. Claims 41, 44, 45, 48-58, 63-66, 68, and 85-105 are currently pending and have been considered below. Claims 1-40, 42, 43, 46, 47, 59-62, 67, and 69-84 have been cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 41, 44, 45, 48-58, 63-66, 68, 85, and 88-96 have been considered but are moot in view of the new ground(s) of rejection.

Remarks

3. In the prior office action, the examiner indicated that dependent claims 43 and 63 would be allowable if rewritten in independent form. In view of the 11/13/2009 Information Disclosure Statement, the examiner withdraws the indication of allowability with regard to the original claims 43 and 63. In particular, cited Japanese reference JP H02-124418 teaches a visor element relevant to the visor element of claims 63 and 64 (see Fig. 2). Cited Japanese reference JP 2001-039243 teaches a gutter element relevant to the gutter element of now cancelled claim 43 and current claim 41 (see Figs. 9, 10).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 41, 44, 45, 48-50, 57, 65, 66, 68, 85, and 88-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingle et al. (US PGPub 2006/0171704) in view of Asada et al. (Japanese Patent Application Publication 2001-039243).

Regarding claim 41, Bingle et al. teach an image acquisition module for monitoring applications of the external surroundings of a vehicle (imaging system for a vehicle, see title, abstract), comprising: a housing with an interior protected against at least moisture (camera module 10 comprises plastic camera housing 11 having portions that are laser welded or sonic welded together to seal the housing 11 to prevent water intrusion, par. 70) and a window hermetically closed by a transparent element (cover portion 20 of housing 11 comprises a transparent cover plate 22, par. 71; the housing 11 is hermetically sealed, par. 81, 84); an electronic circuit accommodated in said housing and associated with connection means with the exterior, for supply and/or bidirectional signal exchange (housing 11 comprises an image sensing device 18 connected to a circuit board 26, par. 71, 77; the image sensor connects to other circuitry through multi-pin connector 14a, par. 82); an image detector connected to said

electronic circuit and opposed to said window (housing 11 comprises an image sensing device 18 connected to a circuit board 26, par. 71, 77; transparent cover plate 22 allows the image of the scene to pass therethrough and into housing 11 to camera 18, par. 71); a support attached to the housing to carry an optic system between said image detector and said window (lens system 24 is positioned within cylindrical portion 12a of camera portion 12 so as to receive light from cover 22, par. 78; the components of the camera module form an integral unit; therefore, the lens system 24 is attached to the housing 11); and positioning means and releasable fixation means to enable at least the focusing of said optic system (lens system 24 functions to focus the image onto sensor 18, par. 77-78) and the releasable fixation of the module to an external structure of a vehicle (mounting tabs 14f are used to attach the camera unit to the vehicle via fasteners, par. 81), wherein said window is associated with at least one protection device protecting it from external agents and from a luminous incidence, providing an appropriate light pass through said transparent element (the transparent cover plate 22 is associated with camera housing 28 which functions to substantially prevent or limit incident light from being received by camera 18 and interfering with the image received by camera 18 through transparent cover plate 22 and lens system 24, par. 78; the transparent cover plate 22 is associated with heating device 30 which defrost and defog the transparent cover plate, par. 71, 77, 86-89). However, Bingle et al. do not teach that said protection device comprises a visor element disposed around at least a part of said window, and a car gutter element disposed around at least another part of said window. Here, the examiner points out that the circumferential ring portion 20a of Fig. 7 could be

construed as a gutter element in view of the gutter element of the Applicant which is exemplified in Applicant's Figs. 8 and 9, element 27. Nevertheless, Bingle et al. do not discuss the circumferential ring in the context of preventing water from accumulating in front of the camera module.

Asada et al. teach a camera module assembly for use in vehicular applications (bumper mounted camera module of Figs. 1 and 2) wherein the camera module assembly comprises a visor element disposed around at least a part of said window (the upper portion of garnish 4 can be considered a visor element, see Figs. 8 or 9), and a gutter element designed to prevent water or snow from accumulating in front of the camera module (portion 4D of the camera mounting adapter of Fig. 9 is angled downwards so as to direct water or snow that accumulates in front of the camera downwards, par. 19, 28-32, 52; Fig. 11A shows that snow 24 which accumulates in front of the camera is directed to fall downwards out of the field of view of the camera module; Fig. 10A shows that the top portion of garnish 4 also acts as a gutter to direct rainwater to either side of the camera module). These features act to prevent water or snow from obstructing the view of the camera, thereby improving performance of the camera device in rainy or snowy weather. In more detail, the garnish 4 is part of an assembly that is used to attach a camera module to a bumper of a car. In Figure 2, element 2 is the car bumper. Garnish 4 is a bezel piece that is inserted through the bumper 2 and mates to the camera mounting bracket 5. As shown in Fig. 4, the bezel 4, the hole in the bumper 3, and the camera mounting bracket 5 are all keyed, and the camera mounting bracket may be locked in place by turning the camera mounting

bracket 5 with respect to the bumper 2. Spring portions 15 of the camera mounting bracket 5 provide urging force to create friction to hold the assembly in place. Once inserted into the vehicle, the assembly can be permanently held in place by the brackets 11 and bolts 20. That is, the whole assembly is not bolted to the bumper or other portion of the car, but rather is held to the bumper via the clamping action of the whole assembly. A well known reason for locating a camera on a bumper of a vehicle is to assist the driver when parking the vehicle.

Therefore, it would be obvious to one of ordinary skill in the art to combine the camera mounting adapter of Asada et al. with the camera module of Bingle et al. so that a driver could be provided with a view near the bumper when parking the vehicle. This would increase the utility of the driver of the vehicle. Regarding the different styles of mounting holes on the camera modules of Bingle et al. and Asada et al., it would be a trivial matter to adapt the bracket of Asada et al. to work with the camera module of Bingle et al. or vice versa.

Regarding claim 44, Bingle et al. in view of Asada et al. teaches the module according to claim 41, wherein said window or said support are, furthermore, associated with conditioning means of the light pass conditions through said transparent element (Bingle et al.: the transparent cover plate 22 is associated with heating device 30 which defrost and defog the transparent cover plate, par. 71, 77, 86-89).

Regarding claim 45, Bingle et al. in view of Asada et al. teaches the module according to claim 44, wherein said conditioning means comprise an electric heater device associated with said transparent element and/or with said optical system and

being supplied from said connection means with the exterior (Bingle et al.: the transparent cover plate 22 is associated with heating device 30 which defrost and defog the transparent cover plate, par. 71, 77, 86-89; power is supplied to the heating device 30 through heating terminals 30a and 30b, par. 86, 88).

Regarding claim 48, Bingle et al. in view of Asada et al. teaches the module according to claim 41, wherein said visor and car gutter elements are part of the housing itself (the visor and gutter elements are part of the bezel 4 of Asada et al., see Fig. 9; the bezel 4 is rigidly attached to the camera housing 1 via the camera mounting adapter 5; therefore, there is no reason why the bezel 4 cannot also be considered as part of the claimed housing; also, if the subject matter of this claim is illustrated in any of Figs. 4-9 of the applicant, then this interpretation is consistent with the configurations shown in these Figures).

Regarding claim 49, Bingle et al. in view of Asada et al. teaches the module according to claim 41, wherein said connection means with the exterior, for the supply and/or for bidirectional signal exchange, are linked to an exterior multiple connector (Bingle et al.: the image sensor connects to other circuitry through multi-pin connector 14a, par. 82).

Regarding claim 50, Bingle et al. in view of Asada et al. teaches the module according to claim 49, wherein said exterior multiple connector is incorporated into the housing (Bingle et al.: the image sensor connects to other circuitry through multi-pin connector 14a, par. 82).

Regarding claim 57, Bingle et al. in view of Asada et al. teaches the module according to claim 41, wherein said image detector is part of an integrated circuit (Bingle et al.: the image sensor is a CMOS or CCD image sensor, par. 72).

Regarding claim 65, Bingle et al. in view of Asada et al. teaches the module according to claim 41, wherein said car gutter is in a certain angle inclined outwards and downwards with respect to a central vision line of the image detector (Asada et al.: portion 4D of the camera mounting adapter of Fig. 9 is angled downwards so as to direct water or snow that accumulates in front of the camera downwards, par. 19, 28-32, 52; Fig. 11A shows that snow 24 which accumulates in front of the camera is directed to fall downwards out of the field of view of the camera module; Fig. 10A shows that the top portion of garnish 4 also acts as a gutter to direct rainwater to either side of the camera module).

Regarding claim 66, Bingle et al. in view of Asada et al. teaches the module according to claim 65, wherein said angle is approximately in the interval between 45 and 90 degrees (Asada et al.: portion 4D of the camera mounting adapter of Fig. 9 is angled downwards so as to direct water or snow that accumulates in front of the camera downwards, par. 19, 28-32, 52; Fig. 11A shows that snow 24 which accumulates in front of the camera is directed to fall downwards out of the field of view of the camera module; Fig. 10A shows that the top portion of garnish 4 also acts as a gutter to direct rainwater to either side of the camera module; the examiner concludes that the word "approximately" is in the claim to indicate that the angle may lie outside of the range 45

to 90 degrees, otherwise it is unnecessary; therefore, the angle of inclination is approximately in the interval between 45 and 90 degrees, see Fig. 9).

Regarding claim 68, Bingle et al. in view of Asada et al. teaches the module according to claim 41, wherein said housing comprising two concave halves with respective perimetral borders opposed to each other and back-to-back throughout a joint (Bingle et al.: casing 16 comprises a pair of casing portions 16a, each of which partially encases about half of the camera module 10 and partially overlaps the other portion 16a, par. 92; see Fig. 3).

Regarding claim 85, Bingle et al. teach an image acquisition module for monitoring applications of the external surroundings of a vehicle (imaging system for a vehicle, see title, abstract), comprising: a housing with an interior protected against at least moisture (camera module 10 comprises plastic camera housing 11 having portions that are laser welded or sonic welded together to seal the housing 11 to prevent water intrusion, par. 70) and a window hermetically closed by a transparent element (cover portion 20 of housing 11 comprises a transparent cover plate 22, par. 71; the housing 11 is hermetically sealed, par. 81, 84); an electronic circuit accommodated in said housing and associated with connection means with the exterior, for supply and/or bidirectional signal exchange (housing 11 comprises an image sensing device 18 connected to a circuit board 26, par. 71, 77; the image sensor connects to other circuitry through multi-pin connector 14a, par. 82); an image detector connected to said electronic circuit and opposed to said window (housing 11 comprises an image sensing device 18 connected to a circuit board 26, par. 71, 77; transparent cover plate 22 allows

the image of the scene to pass therethrough and into housing 11 to camera 18, par. 71); a support attached to the housing to carry an optic system between said image detector and said window (lens system 24 is positioned within cylindrical portion 12a of camera portion 12 so as to receive light from cover 22, par. 78; the components of the camera module form an integral unit; therefore, the lens system 24 is attached to the housing 11); and positioning means and releasable fixation means to enable at least the centering of said optic system (lens system 24 functions to focus the image onto sensor 18, par. 77-78) and the releasable fixation of the module to an external structure of a vehicle (mounting tabs 14f are used to attach the camera unit to the vehicle via fasteners, par. 81), and at least one protection device associated with said window to protect the window from external agents and from a luminous incidence, providing a appropriate light pass through said transparent element (the transparent cover plate 22 is associated with camera housing 28 which functions to substantially prevent or limit incident light from being received by camera 18 and interfering with the image received by camera 18 through transparent cover plate 22 and lens system 24, par. 78; the transparent cover plate 22 is associated with heating device 30 which defrost and defog the transparent cover plate, par. 71, 77, 86-89). However, Bingle et al. do not teach that said protection device comprises at least a visor element arranged around at least a part of said window and a gutter element arranged around at least another part of said window, wherein: a mounting adapter having an opening at a predetermined position with respect to the window is fixed to the housing, said visor element and said gutter element are integrated to the mounting adapter and located around said opening, said

mounting adapter includes centering means and first releasable fixation means cooperating with said positioning means and said releasable fixation means of the housing for fixing the mounting adapter to the housing, and the mounting adapter is provided with second releasable fixation means for releasably fixing the mounting adapter to said external structure of a vehicle. Here, the examiner points out that the circumferential ring portion 20a of Fig. 7 could be construed as a gutter element in view of the gutter element of the Applicant which is exemplified in Applicant's Figs. 8 and 9, element 27. Nevertheless, Bingle et al. do not discuss the circumferential ring in the context of preventing water from accumulating in front of the camera module.

Asada et al. teach a camera module assembly for use in vehicular applications (bumper mounted camera module of Figs. 1 and 2) wherein the camera module assembly comprises at least a visor element arranged around at least a part of a window (the upper portion of garnish 4 can be considered a visor element, see Figs. 8 or 9) and a gutter element arranged around at least another part of said window (portion 4D of the camera mounting adapter of Fig. 9 is angled downwards so as to direct water or snow that accumulates in front of the camera downwards, par. 19, 28-32, 52; Fig. 11A shows that snow 24 which accumulates in front of the camera is directed to fall downwards out of the field of view of the camera module; Fig. 10A shows that the top portion of garnish 4 also acts as a gutter to direct rainwater to either side of the camera module), wherein: a mounting adapter having an opening at a predetermined position with respect to the window is fixed to a camera housing (bezel element 4 and camera mounting bracket 5 are fixed to the camera housing 1, see Fig. 2; the bezel element 4

has an opening through which the camera is exposed; the camera mounting bracket also has an opening through which the camera is exposed, see Fig. 2), said visor element and said gutter element are integrated to the mounting adapter and located around said opening (see either Fig. 8 or 9; the upper portion of bezel 4 is a visor, and the lower portion of bezel 4 is a gutter; see also par. 19, 28-32, 52), said mounting adapter includes centering means and first releasable fixation means cooperating with said positioning means and said releasable fixation means of the housing for fixing the mounting adapter to the housing (see Fig. 2; bezel 4 and camera mounting bracket 5 are centering means for centering the camera 1; camera mounting bracket 5 is a first releasable fixation means for fixing the camera 1 to the camera mounting bracket 5), and the mounting adapter is provided with second releasable fixation means for releasably fixing the mounting adapter to said external structure of a vehicle (camera mounting bracket 5 and bezel 4 are a second releasable fixation means for fixing the mounting adapter to the bumper of the vehicle). These features act to attach the camera module to the bumper of the vehicle and to prevent water or snow from obstructing the view of the camera, thereby improving performance of the camera device in rainy or snowy weather. In more detail, the garnish 4 is part of an assembly that is used to attach a camera module to a bumper of a car. In Figure 2, element 2 is the car bumper. Garnish 4 is a bezel piece that is inserted through the bumper 2 and mates to the camera mounting bracket 5. As shown in Fig. 4, the bezel 4, the hole in the bumper 3, and the camera mounting bracket 5 are all keyed, and the camera mounting bracket may be locked in place by turning the camera mounting bracket 5 with respect to the

bumper 2. Spring portions 15 of the camera mounting bracket 5 provide urging force to create friction to hold the assembly in place. Once inserted into the vehicle, the assembly can be permanently held in place by the brackets 11 and bolts 20. That is, the whole assembly is not bolted to the bumper or other portion of the car, but rather is held to the bumper via the clamping action of the whole assembly. A well known reason for locating a camera on a bumper of a vehicle is to assist the driver when parking the vehicle.

Therefore, it would be obvious to one of ordinary skill in the art to combine the camera mounting adapter of Asada et al. with the camera module of Bingle et al. so that a driver could be provided with a view near the bumper when parting the vehicle. This would increase the utility of the driver of the vehicle. Regarding the different styles of mounting holes on the camera modules of Bingle et al. and Asada et al., it would be a trivial matter to adapt the bracket of Asada et al. to work with the camera module of Bingle et al. or vice versa.

Regarding claim 88, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein said second releasable fixation means for the fixation of the mounting adapter to the exterior structure of a vehicle is selected from the group consisting of snap-fitting elastic elements, form-fitting fixation elements and screws (see Asada et al. Fig. 3; the bezel 4, bumper 2, and camera mounting bracket 5 are all keyed and are therefore form fitting fixation elements; see key sections 12 in the bumper 2).

Regarding claim 89, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein said exterior structure of a vehicle is an exterior rear

view mirror housing of a vehicle (Bingle et al.: the camera module may be mounted in an exterior mirror assembly, or in an interior rearview mirror assembly, par. 76). One of ordinary skill in the art would appreciate that it would be fairly easy to adapt the camera mounting method of Asada et al. to either of these applications. Further, the examiner points out that this claim is merely describing the intended use of the camera module, and as such, is not accorded patentable weight.

Regarding claim 90, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein said visor element is in a small angle inclined outwards and upwards with respect to a central vision line of the image detector, said small angle being approximately within an interval from 0 to 15 degrees (Asada et al.: the upper portion of inspection hole 4 of the camera mounting adapter of Fig. 9 is angled upwards and outwards; the examiner concludes that the word "approximately" is in the claim to indicate that the angle may lie outside of the range 0 to 15 degrees, otherwise it is unnecessary; therefore, the angle of inclination is approximately in the interval between 0 and 15 degrees, see Fig. 9).

Regarding claim 91, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein said gutter is in a certain angle inclined outwards and downwards in respect of a central vision line of the image detector, said certain angle being approximately within an interval from 45 to 90 degrees (Asada et al.: portion 4D of the camera mounting adapter of Fig. 9 is angled downwards so as to direct water or snow that accumulates in front of the camera downwards, par. 19, 28-32, 52; Fig. 11A shows that snow 24 which accumulates in front of the camera is directed to fall

downwards out of the field of view of the camera module; Fig. 10A shows that the top portion of garnish 4 also acts as a gutter to direct rainwater to either side of the camera module; the examiner concludes that the word "approximately" is in the claim to indicate that the angle may lie outside of the range 45 to 90 degrees, otherwise it is unnecessary; therefore, the angle of inclination is approximately in the interval between 45 and 90 degrees, see Fig. 9).

Regarding claim 92, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein the window is arranged in a plane and has a window diameter, and a distance between said plane and zones of the visor and/or gutter elements most protruding from said plane is not less than said window diameter (see Asada et al. Fig. 9; the length of the window portion is less than the distance which bezel 4 projects from the window surface).

Regarding claim 93, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein said window or said support are, furthermore, associated with conditioning means for the light pass conditions through said transparent element, said conditioning means comprising an electric heater device associated with said transparent element and/or with said optical system and being supplied from said connection means with the exterior (Bingle et al.: the transparent cover plate 22 is associated with heating device 30 which defrost and defog the transparent cover plate, par. 71, 77, 86-89; power is supplied to the heating device 30 through heating terminals 30a and 30b, par. 86, 88).

Regarding claim 94, Bingle et al. in view of Asada et al. teaches the module, according to claim 85, wherein said housing comprises two concave halves with respective perimetral edges opposed to each other and back-to-back throughout a joint (Bingle et al.: casing 16 comprises a pair of casing portions 16a, each of which partially encases about half of the camera module 10 and partially overlaps the other portion 16a, par. 92; see Fig. 3).

6. Claims 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingle et al. (US PGPub 2006/0171704) and Asada et al. (Japanese Patent Application Publication 2001-039243) as described above, and further in view of Kameyama (US PGPub 2002/0126457).

Regarding claim 51, Bingle et al. in view of Asada et al. teaches the module according to claim 49. However, Bingle et al. in view of Asada et al. does not teach wherein said exterior multiple connector is disposed at the end of a multicore wiring.

Kameyama teaches a camera module for use on a vehicle wherein the camera module comprises an exterior multiple connector disposed at the end of a multicore wiring (wiring harness 4 is connected to non-waterproof connector CR3, see Fig. 1, par. 124-128; the wiring may be a ribbon cable or a flexible printed circuit, par. 126). Using a multicore wiring to electrically connect the camera to the vehicle increases the flexibility of the camera device in that the camera device does not have to be mounted at the location of connector CR3.

Therefore, it would be obvious to one of ordinary skill in the art to combine the multicore cable of Kameyama with the camera device of Bingle et al. in view of Asada et al. so that the camera could be mounted at locations other than where the vehicle's camera connector is located. This would increase the utility of the user.

Regarding claim 52, Bingle et al. in view of Asada et al. and Kameyama teaches the module according to claim 51, wherein said multicore wiring has the form of a flat tape (Kameyama: wiring harness 4 is connected to non-waterproof connector CR3, see Fig. 1, par. 124-128; the wiring may be a ribbon cable or a flexible printed circuit, par. 126).

Regarding claim 53, Bingle et al. in view of Asada et al. and Kameyama teaches the module according to claim 51, wherein said multicore wiring is a printed flexible circuit (Kameyama: wiring harness 4 is connected to non-waterproof connector CR3, see Fig. 1, par. 124-128; the wiring may be a ribbon cable or a flexible printed circuit, par. 126).

7. Claims 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingle et al. (US PGPub 2006/0171704) and Asada et al. (Japanese Patent Application Publication 2001-039243) as described above, and further in view of DeLine et al. (US Patent 6,420,975).

Regarding claim 54, Bingle et al. in view of Asada et al. teaches the module according to claim 41. However, Bingle et al. in view of Asada et al. does not teach wherein said connection means with the exterior, for the supply and/or the bidirectional

signal exchange, are materialized in the form of an emitter/receptor of electromagnetic waves.

DeLine et al. teach a camera system for use on a vehicle wherein the camera unit communicates with the rest of the system via a wireless connection (col. 26 lines 56-63). An obvious advantage of using a wireless connection is that it simplifies the design of the camera cabling in that it obviates the need for conductors for the video signal. Further, it simplifies the connection of the camera to the vehicle video system.

Therefore, it would be obvious to one of ordinary skill in the art to combine the wireless connection of DeLine et al. with the camera device of Bingle et al. in view of Asada et al. so that the camera cabling could be simplified. This would reduce the cost of the camera cabling.

Regarding claim 55, Bingle et al. in view of Asada et al. and DeLine et al. teaches the module according to claim 54, wherein said emitter/receptor of electromagnetic waves is a radio signal emitter/receptor (DeLine et al.: the wireless connection is a radio-frequency transmission, col. 26 lines 56-63).

Regarding claim 56, Bingle et al. in view of Asada et al. and DeLine et al. teaches the module according to claim 54, wherein said emitter/receptor of electromagnetic waves is an infra-red ray signal emitter/receptor (DeLine et al.: the wireless connection is an infrared transmission, col. 26 lines 56-63).

8. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bingle et al. (US PGPub 2006/0171704) and Asada et al. (Japanese Patent Application

Publication 2001-039243) as described above, and further in view of Camus et al. (US Patent 6,594,399).

Regarding claim 58, Bingle et al. in view of Asada et al. teaches the module according to claim 57. However, Bingle et al. in view of Asada et al. does not teach wherein said integrated circuit is an A.S.I.C.

Camus et al. teach a camera module comprising an ASIC (see Fig. 1, col. 2 line 62 to col. 3 line 7). As is well known in the art, ASIC stands for application specific integrated circuit and simply means a custom IC. In other words, the IC is custom designed for a particular application as opposed to a general IC that is intended to be used in many diverse applications. The well known benefit of an ASIC is that because the ASIC is designed for a specific application, it can be optimized for that particular application.

Therefore, it would be obvious to one of ordinary skill in the art to combine the ASIC of Camus et al. with the camera device of Bingle et al. in view of Asada et al. so that the camera processing could be optimized for the particular camera application. This would increase the efficiency of the camera processing.

9. Claims 63 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingle et al. (US PGPub 2006/0171704) in view of Shirakawa (Japanese Patent Application Publication H02-124418).

Regarding claim 63, Bingle et al. teach an image acquisition module for monitoring applications of the external surroundings of a vehicle (imaging system for a

vehicle, see title, abstract), comprising: a housing with an interior protected against at least moisture (camera module 10 comprises plastic camera housing 11 having portions that are laser welded or sonic welded together to seal the housing 11 to prevent water intrusion, par. 70) and a window hermetically closed by a transparent element (cover portion 20 of housing 11 comprises a transparent cover plate 22, par. 71; the housing 11 is hermetically sealed, par. 81, 84); an electronic circuit accommodated in said housing and associated with connection means with the exterior, for supply and/or bidirectional signal exchange (housing 11 comprises an image sensing device 18 connected to a circuit board 26, par. 71, 77; the image sensor connects to other circuitry through multi-pin connector 14a, par. 82); an image detector connected to said electronic circuit and opposed to said window (housing 11 comprises an image sensing device 18 connected to a circuit board 26, par. 71, 77; transparent cover plate 22 allows the image of the scene to pass therethrough and into housing 11 to camera 18, par. 71); a support attached to the housing to carry an optic system between said image detector and said window (lens system 24 is positioned within cylindrical portion 12a of camera portion 12 so as to receive light from cover 22, par. 78; the components of the camera module form an integral unit; therefore, the lens system 24 is attached to the housing 11); and positioning means and releasable fixation means to enable at least the focusing of said optic system (lens system 24 functions to focus the image onto sensor 18, par. 77-78) and the releasable fixation of the module to an external structure of a vehicle (mounting tabs 14f are used to attach the camera unit to the vehicle via fasteners, par. 81), wherein said window is associated with at least one protection

device protecting it from external agents and from a luminous incidence, providing an appropriate light pass through said transparent element (the transparent cover plate 22 is associated with camera housing 28 which functions to substantially prevent or limit incident light from being received by camera 18 and interfering with the image received by camera 18 through transparent cover plate 22 and lens system 24, par. 78; the transparent cover plate 22 is associated with heating device 30 which defrost and defog the transparent cover plate, par. 71, 77, 86-89). However, Bingle et al. do not teach that said protection device comprises a visor element disposed around at least a part of said window, and wherein said visor element is in a small angle inclined outwards and upwards with respect to a central vision line of the image detector.

Shirakawa teaches a camera module for use in vehicular applications wherein the camera module comprises a visor element (see Fig. 2, element 8), and wherein said visor element is in a small angle inclined outwards and upwards with respect to a central vision line of the image detector (it is inclined upwards and outwards with respect to a central vision line of the image detector at an angle of zero degrees, see Fig. 2). Visor elements are included with cameras for the purpose of shielding the camera element from bright lights, typically the sun.

Therefore, it would be obvious to one of ordinary skill in the art to combine the visor element of Shirakawa with the camera module of Bingle et al. so that the camera could be shielded from bright light, such as would be caused by the sun. This would improve the performance of the device.

Regarding claim 64, Bingle et al. in view of Shirakawa teaches the module according to claim 63, wherein said small angle is approximately in an interval between 0 and 15 degrees (Shirakawa: the visor is inclined upwards and outwards with respect to a central vision line of the image detector at an angle of zero degrees, see Fig. 2).

10. Claims 95 and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bingle et al. (US PGPub 2006/0171704) in view of Asada et al. (Japanese Patent Application Publication 2001-039243) as applied to claim 94 above, and further in view of Kameyama (US PGPub 2002/0101041).

Regarding claim 95, Bingle et al. in view of Asada et al. teaches the module, according to claim 94, wherein said concave halves are provided with respective continuous flanges externally extending adjacent to said perimetral edges (Bingle et al.: each of the casing portions 16a partially overlaps the other of the casing portions 16a to substantially encase the plastic housing within protective shield 16, par. 92). However, Bingle et al. in view of Asada et al. does not teach that an annular elastic sealing element is arranged embracing both continuous flanges and covering said joint. Rather, Bingle et al. teach that the two parts of the camera housing are permanently joined via welding, crimping, banding, or adhesives (par. 92, 94). Clearly, Bingle et al. are interested in making the interior of the camera housing watertight (par. 94).

It is well known in the electronic arts that equipment housings may be made moisture resistant by the use of an elastic sealing member placed between two portions of the housing when the housing portions are assembled. For example, gaskets made

of rubber are often used to seal joints in electronic housings. O-rings and rubber grommets are other common sealing element types. Kameyama teaches a camera housing for use in vehicular applications wherein housing elements are sealed with a rubber sealing member 7 (see Fig. 1). An obvious advantage of using a rubber sealing element between two housing elements is that it allows the housing elements to be joined in a non-permanent fashion. This is useful for many reasons such as replacement or upgrade of the camera unit within the housing. It would also allow for the adjustment of the lens barrel 24 of Bingle et al.

Therefore, it would be obvious to one of ordinary skill in the art to combine the rubber sealing elements of Kameyama with the camera assembly of Bingle et al. in view of Asada et al. so that the two portions of the camera housing of Bingle et al. (see Fig. 3) could be sealed non-permanently. This would allow the camera unit in the housing to be replaced without having to replace the entire camera module assembly. This would reduce the cost of upgrading the camera unit and thereby increase the utility of the user.

Regarding claim 96, Bingle et al. in view of Asada et al. and Kameyama teaches the module, according to claim 95, wherein in a part of at least one of said perimetral edges there is a recess to provide an exit for a multicore wiring (Bingle et al.: see Figs. 3 and 8; the seam of casing 16 is interrupted where the connector portion 14 extends; the connector portion is for receiving a multipin connector of a multiconductor cable, see Fig. 8).

Allowable Subject Matter

11. Claims 86, 87, and 97-105 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 11/13/2009 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS HOGUE whose telephone number is (571)

270-5089. The examiner can normally be reached on Mon. - Thurs., 8:00 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DH

Examiner

12/29/2009

/Jason Whipkey/
Primary Examiner, Art Unit 2622